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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PHAM, THIERRY L	

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,038	PHILLIPS, QUINTIN T.	
	Examiner	Art Unit	
	Thierry L Pham	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/7/01*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *12-28, 31-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,29-30 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I: Claims 1-11, 29-30 and 34 drawn to a method for determining an non-optimal condition for printer device, classified in class 358, subclass 1.9.

Group II: Claims 12-22 drawn to a host computer for adjusting color gamut for the printer device, classified in class 358, subclass 523.

Group III: Claims 23-28 drawn to a printer for adjusting color gamut for the printer device, classified in 358, subclass 504.

Group IV: Claims 31-33 drawn to a system (host computer and printer device) includes a printer controller for adjusting color gamut and such printer controller can be incorporated in the host computer or printer device, classified in 358, subclass 1.15.

Inventions I, II, III and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as finding an alternate printer device for printing the current print job based upon the non-optimal conditions existed in the current printer without having to perform color gamut adjustment. See MPEP § 806.05(d). Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mathew Wade on 3/23/05 a provisional election was made without traverse to prosecute the invention of **Group I, claims 1-11, 29-30 and 34**. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-28, 31-33 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-11, 29-30, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6771378), and in view of Munetomo et al (US 6661530).

Regarding claim 1, Akiyama discloses a method comprising:

- submitting a print job to a print device (submitting a print job from the host computer, fig. 1);
- receiving notification from the print device that a non-optimal condition exists with one or more consumables (selected color toner to be printed is empty and suggesting an alternate color schemes, figs. 11, 21-24, 45-47);
- displaying (i.e. message 33, fig. 21) a warning message about a toner color affected by the non-optimal condition;
- suggesting one or more alternate color schemes (suggesting an alternate color schemes, fig. 21-24) to use for the print job; and
- if an alternate color scheme is selected, resubmitting (resubmitting the print job with alternate color schemes, fig. 21-24) the print job with the alternate color scheme to the print device.

However, Akiyama fails to explicitly disclose a method for displaying a visual representation of the print job without the affected toner color.

Munetomo, in the same field of endeavor for printing, teaches a method for displaying a visual representation of the print job without the affected toner color (print preview of print job with selected color attributes as shown in figs. 12-13, and please notes that print preview of a print job before submitting to a printer is widely known and available in the art).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama as per teachings of Munetomo by incorporating a method including a method for displaying a visual representation of the print job without the affected toner color (i.e. print preview) before submitting to the printer device, by doing so, it allows

users/operators to determine whether the printed product meets the customer's specs; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

Therefore, it would have been obvious to combine Akiyama with Munetomo to obtain the invention as specified in claim 1.

Regarding claim 2, Akiyama further discloses a method as recited in claim 1, wherein resubmitting the print job further comprises: adjusting the color gamut (inherently, prior to print a print job with an alternate color schemes, the printer must adjusts the color gamut before printing the print job with altered color toners, figs. 21-24) of the print device according to the selected alternate color scheme.

Regarding claim 4, Akiyama further discloses a method as recited in claim 1 further comprising: presenting print options (fig. 19-20) for selection; and executing a selected print option, the print options comprising; canceling the print job (stop button, fig. 19-20); permitting the print job to print with the non-optimal condition (execute button, fig. 19-20); permitting the print job to print without the affected toner color (execute button, fig. 19-20); redirecting the print job to an alternate print device (it is known in the art to select different printers if the current printer is failed, i.e., one of ordinary skill in the art would press the "stop" button as shown in fig. 23-24 and then selecting a different printer to complete the unfinished print job since the system as shown in fig. 1 is connected via a network; pausing to permit correction of the non-optimal condition and then printing the print job (i.e., message 3, fig. 19); and printing the print job in grayscale (gray of message 5, fig. 23).

Regarding claim 5, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a low toner level (fig. 35, col. 24, lines 8-10) for one of a plurality of toner colors in an all-in-one toner cartridge (print head 303 contains plurality of ink toners 302, fig. 37).

Regarding claim 6, Akiyama further disclose a method as recited in claim 1, wherein the non-optimal condition is a depleted toner color (empty toner, fig. 17) for one of a plurality of toner colors in an all-in-one toner cartridge (print head 303 contains plurality of ink toners 302, fig. 37).

Regarding claim 7, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a low toner level (fig. 35, col. 24, lines 8-10) for one of a plurality of toner colors each located in a separate toner cartridge (toners 23a-23d, fig. 36).

Regarding claim 8, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a depleted toner (empty toner, fig. 17) color for one of a plurality of toner colors each located in a separate toner cartridge (toners 23a-23d, fig. 36).

Regarding claims 9-10, a method for detecting worn photoconductor and transfer element are widely available and known in the art.

Regarding claim 11, Akiyama further discloses a computer-readable media (memory 107, fig. 1) having computer-readable instructions for performing the method as recited in claim 1.

Regarding claim 29, Akiyama discloses a computer coupled to a print device (fig. 1), the print device comprising a consumable component having a monitoring device (ink sensor 108, fig. 1) configured to detect a non-optimal condition (i.e. ink status, fig. 2a) of the consumable component, the computer comprising:

- a printer controller (driver 114 incorporated within the host computer, fig. 1) configured to send a print job to the print device;
- the printer controller further configured to receive information from the monitoring device and provide options for managing a non-optimal condition (i.e. status of ink toners, figs. 21-24) the options comprising:
- canceling the print job (stop button, fig. 21-24);

- permitting the print job to print with the non-optimal condition (execute button, fig. 21-24);
- permitting the print job to print without a toner color affected by the non-optimal condition (execute button, fig. 21-24);
- pausing (pausing the print job to replace a new cartridge toner, fig. 17) the print job to permit correction of the non-optimal condition and then permitting the print job to print;
- permitting the print job to print in grayscale (gray scale, fig. 23);

However, Akiyama fails to explicitly disclose wherein a printer controller visually presenting the print job in one or more selectable alternate color schemes, each alternate color scheme excluding the toner color affected by the non-optimal condition, and to redirecting the print job to an alternate print device.

Munetomo, in the same field of endeavor for printing, teaches a method for displaying a visual representation of the print job without the affected toner color (print preview of print job with selected color attributes as shown in figs. 12-13, and please notes that print preview of a print job before submitting to a printer is widely known and available in the art), and redirecting the print job to an alternate print device (it is also known the art to select a different printer if the current printer is failed due to non-optimal conditions such as empty toner, one of ordinary skill in the art would "stop" the failed printer and select another print since the system as shown in fig. 1 is connected via a network).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama as per teachings of Munetomo by incorporating a method including a method for displaying a visual representation of the print job without the affected toner color (i.e. print preview) before submitting to the printer device, by doing so, it allows users/operators to determine whether the printed product meets the customer's specs; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

Therefore, it would have been obvious to combine Akiyama with Munetomo to obtain the invention as specified in claim 29.

Regarding claim 30, Akiyama further discloses a computer as recited in claim 29, wherein the printer controller is further configured to adjust the color gamut of the print device

according to a selected alternate color scheme and resend the print job to the print device for printing (obviously, the print data must be adjusted to the color gamut of the print device before printing a print job with altered color toners if the selected color toner is empty, fig. 23-24)

Regarding claim 34, Akiyama discloses a system (print system, fig. 1) comprising: a computer (computer, fig. 1); a print device (printer, fig. 1) coupled to the computer, the print device comprising a consumable component (ink cartridge, fig. 1); the consumable component comprising a monitoring device (ink sensor, fig. 1) configured to send information about the condition of the consumable component to the computer (ink toner status, fig. 21-24); the computer further configured to look up one or more alternate color schemes (alternate color schemes, fig. 21-24) based on the condition of the consumable component and display the print job with the one or more alternate color schemes; the computer further configured to send the print job to the print device to be printed with an alternate color scheme (figs. 21-24).

Munetomo, in the same field of endeavor for printing, teaches a method for displaying a visual representation of the print job without the affected toner color (print preview of print job with selected color attributes as shown in figs. 12-13, and please notes that print preview of a print job before submitting to a printer is widely known and available in the art).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama as per teachings of Munetomo by incorporating a method including a method for displaying a visual representation of the print job without the affected toner color (i.e. print preview) before submitting to the printer device, by doing so, it allows users/operators to determine whether the printed product meets the customer's specs; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

Therefore, it would have been obvious to combine Akiyama with Munetomo to obtain the invention as specified in claim 34.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama and Munetomo as described in claim 1, and further in view of Yabe (US 5907415).

Regarding claim 3, Akiyama discloses a method for selecting an alternate color scheme for completing the unfinished print job if non-optimal condition exists (i.e. empty color toner), but fail to explicitly teach and/or suggest a method for adjusting color gamut comprises:

- accessing a color look-up table; and
- mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job.

Yabe, in the same field of endeavor for printing environment, teaches a method for adjusting color gamut comprises: • accessing a color look-up table (color reproduction gamut of printer, fig. 3); and • mapping the color gamut (color gamut mapping unit 30, fig. 1) of the print device to the color look-up table to replace non-reproducible colors in the print job. Please also notes, the method for adjusting color gamut and look-up table are widely available and known in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama and Munetomo as per teachings of Yabe by incorporating a method of adjusting color gamut including accessing a color look-up table and mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job because of a following reason: (•) to perform an image processing capable of producing high-quality image (Yabe, col. 1, lines 24-30) by accessing a color look-up table to reproduce the altered color schemes accurately; (•) using color look up table provides fast searching and to eliminate calculation processes, therefore, improving printing speed.

Therefore, it would have been obvious to combine Akiyama with Yabe to obtain the invention as specified in claim 3.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 6343147 to Yamamoto, teaches a print preview interface for print job prior submitting to a print device.
- US 6137596 to Decker et al, teaches a method for adjusting color gamut and look up table.
- US 6563944 to Kumada, teaches a method for selecting an alternate printer device.

• US 20010040998 to Roetling, teaches a method for adjusting color gamut and look up table.

• US 5778279 to Kawai et al, teaches a method for detecting worn photoconductor and transfer element in an image forming apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham

GABRIEL GARCIA
PRIMARY EXAMINER